

forms. There are so many Mediterranean hares, and so little is known of them, that it would be as yet impossible to state the exact affinities of any. *Lepus creticus* is a pale form, readily distinguishable from all those inhabiting neighbouring regions by its light-coloured rump. In this respect, although by no means in the remainder of its coloration, it resembles British winter examples of *L. europæus occidentalis*.

The opportunity may here be taken to describe the hare of Cyprus—a small form allied in colour to that of Crete, but lacking the light rump. As in *L. creticus*, the underfur, except on the head, is white, but the buff of the upper surface is slightly yellowish and the black browner than in that species. The nuchal patch, throat, breast, thighs, and anterior surface of the fore legs are more rufous, and the cheeks are tinged also with that colour. There is no white on the ears. The animal is altogether less pale than *L. creticus*. It may be known as

Lepus cyprius, sp. n.

As in the case of *L. creticus*, this note is without prejudice to future investigation, which may indicate, more accurately than is now possible, exact specific or subspecific affinities.

I have seen three examples of *L. cyprius*, all of which were presented to the British Museum by the late Lord Lilford. They are without dimensions.

		Basal length of skulls averages	
78. 7. 3. 5 (type of species).	Cyprus.	} 70 mm. }	All three skulls are much damaged.
— 6.	”		
— 7.	”		

It is noteworthy that the moderately light coloration of the hare of Crete is paralleled by that of the badger, *Meles meles mediterraneus**, of the same island.

BIBLIOGRAPHICAL NOTICES.

Dr. Günther's Monograph of the Reptiles and Batrachians of Central America.

Biologia Centrali-Americana.—Reptilia and Batrachia.

By ALBERT GÜNTHER. London, 1885-1902. Pp. xx & 326; 76 pls.

OUR first duty in noticing an elaborate and sumptuously illustrated volume like the one before us is to congratulate the learned author on the completion of his task, and the patience with which he has continued his labours for more than fifteen years. The reasons for

* See Ann. & Mag. Nat. Hist. ser. 7, vol. iv. (Nov. 1899) pp. 383-4.

the long period of time which elapsed between the issue of the first and the final fasciculus are, we are told, twofold. In the first place, a large portion of the author's time was taken up by official and other duties, to which attention was imperative, so that only spare hours (if such exist in the life of a busy naturalist) could be devoted to the present volume. In the second place, collectors were busy in obtaining and sending home consignments of reptiles and batrachians from various parts of Central America, and it was accordingly deemed advisable to await the arrival of as many of these as possible. All these numerous collections added much to our knowledge of the reptilian and batrachian species from the area under consideration, and their geographical distribution; but even with these important additions the author has still to lament many gaps in the available information. Apparently the districts best known from a reptilian point of view are the plateau and highlands round the city of Mexico; but it is satisfactory to learn that the Government of Costa Rica has been at special pains to explore its territories and collect the fauna.

One disadvantage inevitably connected with a work which has been so many years in course of publication is that the earlier portions must be somewhat out of date, for what was doubtless first-rate zoology in 1885 may not be in all respects so good in 1902. This disadvantage is fully acknowledged by the author in the Introduction, where it is stated that much supplementary labour and time will be necessary to correlate the earlier portions of the work with the information which has been acquired and the redeterminations which have been made subsequently to the dates of their publication. This supplementary information, together with a report on collections received too late for notice in the volume before us, will, it is hoped, be issued in a separate form at no very distant date.

A total of 695 species is recorded in this volume, many of which are described as new. In the case of the Reptiles only forms of which previous accounts were unsatisfactory are described at length; but as regards the Batrachians this practice has been abandoned in favour of a comparatively full history of each. In accordance with the traditions of the 'Biologia,' as a whole, the plates illustrating Dr. Günther's volume are for the most part beautiful examples of lithography, while the nine which have been printed wholly or partially in colours are beyond praise.

A special feature of the work is the attention bestowed on the geographical range of the various species which come under review. The tables, occupying eight closely printed pages of the Introduction, which are devoted to the elucidation of this part of the subject, afford by themselves some indication of the enormous amount of labour and attention bestowed by the author on his task.

The main scope of the work is, of course, the systematic description of the cold-blooded land vertebrates of Central America and Southern Mexico; and the details of this can only be of interest to students of this branch of zoology. Much more importance

attaches to the author's remarks on the general relations of the fauna under consideration.

"Forming the connecting link between the two Neogæan regions," observes Dr. Günther, "Central America possesses a Reptilian and Batrachian Fauna with the various constituent elements so mixed that, if only certain families or genera were taken into consideration, almost every district of this area could be associated with either the North- or South-American region. The tropical Fauna, of course, gradually changes into, or is replaced by, that of the temperate region, as we proceed from lower to higher latitudes; but this change is not uniform throughout the breadth of the land; the two faunas overlap each other in deep and manifold indentations. Tropical forms are found to preponderate in the low lands of the Atlantic side, which expand into the broad Yucatan peninsula, and on the humid slopes of moderate elevation; some extend to, and even reach northwards of, the Rio Grande. On the Western side they are found in similar localities, but in a narrower belt, along the Pacific coast. On the other hand, numerous types of the southern North-American Fauna are spread over Northern Mexico, extending along the Central-American plateau to the extreme limits of our area, and even beyond. This southward extension of northern types is due partly to the identical physical conditions of the arid tableland of Sonora and Chihuahua, which is merely a continuation of that of Arizona and New Mexico, and partly to the great altitude and temperate climate of the Central-American plateau.

"Thus, a boundary-line between the North- and South-American regions cannot be drawn: the whole of Central America is a transition-tract which, unlike any other part of the world, shows the most extraordinary diversity of climatic, physical, and meteoric conditions within comparatively small areas, favouring the evolution of a great variety of types of genera and species, and influencing the dispersal of species from the North and South."

Some expression of opinion from the author as to the origin of the reptile fauna of South America would have been welcome; but this may have been beyond the scope of the 'Biologia,' or may perhaps be touched upon at the completion of the entire work.

As regards the systematic portion of the work, a very few words must suffice—partly because the present reviewer does not feel himself competent to discuss details, and partly because such a discussion would not be of interest to the majority of the readers of this journal.

Speaking generally, it may be affirmed that Dr. Günther is disposed to regard genera and species in a broad and comprehensive sense. For example, he takes the genus *Alligator* to include the caimans and jacares of Central and South America, which are classed by many other writers as a group apart, under the barbarous title "Caiman." Doubtless there is much to be said in favour of the author's view—the non-division of the nostrils by the nasals and the presence of bony scutes on the under surface in

the caimans not being features of much importance, especially since the Chinese alligator has vestiges of scutes on the abdomen. On the other hand, it is a matter of convenience to separate the essentially southern caimans from the northern alligators.

Another example of the wide sense in which generic terms are employed is the inclusion of the terrapins, frequently classed as *Nicoria* and *Clemmys*, in the older genus *Emys*. In respect to species of this group we notice some discrepancy between the views of the author and those of other writers. For instance, the author's *Emys salviui* has been identified with *Chrysemys ornata*, and *E. umbra* with *C. grayi*, while *E. pulcherrima* has been regarded as only a local form of *Nicoria punctularia*.

Again, *Crocodilus Moreletii*, which the author regards merely as a variety of the common *C. americanus*, is placed by another writer in quite a distinct section of the genus. On the other hand, the form classed by Dr. Günther as a variety of the last-named species, with the affix var. *acutus*, is not recognized at all by the writer referred to.

We shall await an expression of opinion on these and other points by the author in his promised supplement.

In the meantime it is satisfactory to find that the author is in favour of amending the orthography and transliteration of scientific names, when necessary, instead of blindly following the errors of a describer who may have had the misfortune to lack a classical education. As an example, we notice the modification of Spix's *Kinosternon* to *Cinosternum*; but here we may venture to suggest that, in our opinion, it would have been better to have given the original spelling when quoting the original reference. May we hazard the conjecture that had the author seen fit to separate the caimans from the alligators, he would have modified the barbarous "Caiman" into "Caimania," or some other form less inharmonious with classical usage?

Finally, we have again to offer our hearty congratulations to Dr. Günther on the successful completion of his arduous task, and we may likewise take the opportunity of felicitating Mr. Godman on having secured his services as a contributor to such a monumental undertaking as the 'Biologia Centrali-Americana.'

R. LYDEKKER.

A Natural History of the British Lepidoptera. A Textbook for Students and Collectors. By J. W. TUTT, F.E.S., Author of 'The British Noctuae and their Varieties,' 'Monograph of the British Pterophorina,' 'British Butterflies,' 'British Moths,' &c. Vol. III. London & Berlin: July 1902. Pp. xi, 558.

AFTER an interval of but little more than two years, we have again the pleasure of reviewing another volume of Mr. Tutt's enormously laborious and comprehensive work on the British Lepidoptera. The size and the manner of execution are similar to the two preceding volumes; but it is entirely systematic, as no space could be spared